



ASHBY.1.DIV.ST25.txt
SEQUENCE LISTING

<110> Ashby, Matthew
<120> Methods for the Survey and Genetic Analysis of Populations
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<140> US 10/607,077
<141> 2003-06-25

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<151> 2001-04-10

<150> PCT/US01/11609
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<150> US 60/196063
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microbes in soil sample collected
in Wyoming, USA

<400> 106
ctcctgtgcc gcagct 16

<210> 107
<211> 16
<212> DNA
<213> Unknown
<220>
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microbes in soil sample collected
in Wyoming, USA

<400> 107
ctgcccgcgc ggagct 16

<210> 108
<211> 16
<212> DNA
<213> Unknown
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microbes in soil sample collected
in Wyoming, USA

<400> 108
ctgcccgtgcc gaagct 16

<210> 109
<211> 16
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in Wyoming, USA

<400> 109
ctgcccgtgcc taagct 16

<210> 110
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ASHBY.1.DIV.ST25.txt
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microbes in soil sample collected
in Wyoming, USA

<400> 110
ctgcggtgcc gcagct

16

<210> 111
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 111
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16

<210> 112
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microbes in soil sample collected
in Wyoming, USA

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16

<210> 113
<211> 16
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microbes in soil sample collected
in Wyoming, USA

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16

<210> 114
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microbes in soil sample collected
in Wyoming, USA

<400> 114
cttccgtgcc gaagct

16

<210> 115
<211> 16
<212> DNA

ASHBY.1.DIV.ST25.txt

<213> Unknown
<220>
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microbes in soil sample collected
in Wyoming, USA

<400> 115
cttccgtgcc gcagct 16

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microbes in soil sample collected
in Wyoming, USA

<400> 116
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<210> 117
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microbes in soil sample collected
in Wyoming, USA

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<210> 118
<211> 16
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<213> Unknown
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microbes in soil sample collected
in Wyoming, USA

<400> 118
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<210> 119
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 119
cttgggtgcc gcagct 16

<210> 120

ASHBY.1.DIV.ST25.txt

<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 120
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<210> 121
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microbes in soil sample collected
in Wyoming, USA

<400> 121
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<210> 122
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 122
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<210> 123
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 123
gctccgtgcc gaagct 16

<210> 124
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 124
gctccgtgcc gtagct 16

ASHBY.1.DIV.ST25.txt

<210> 125
<211> 16
<212> DNA
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microbes in soil sample collected
in Wyoming, USA

<400> 125
gctctgtgcc gaagct

16

<210> 126
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 126
gctctgtgcc gtagct

16

<210> 127
<211> 16
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<213> Unknown
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microbes in soil sample collected
in Wyoming, USA

<400> 127
gggcttgtcg tcagct

16

<210> 128
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 128
gtaaacgatg gaagct

16

<210> 129
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microbes in soil sample collected
in Wyoming, USA

<400> 129

gttccgtgcc gcagct

<210> 130
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 130
gttccgtgcc gtagct

<210> 131
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microbes in soil sample collected
in Wyoming, USA

<400> 131
gttctgtgcc gcagct

<210> 132
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microbes in soil sample collected
in Wyoming, USA

<400> 132
tctcacgaca cgagct

<210> 133
<211> 16
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microbes in soil sample collected
in Wyoming, USA

<400> 133
tctcagtaac gtagct

<210> 134
<211> 16
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<223> ribosomal DNA sequence tag isolated from
microbes in soil sample collected
in Wyoming, USA

ASHBY.1.DIV.ST25.txt

<400> 134
tctccgtgcc gcagct

16

<210> 135
<211> 16
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<213> Unknown
<220>
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microbes in soil sample collected
in Wyoming, USA

<400> 135
tctctgtgcc gcagct

16

<210> 136
<211> 16
<212> DNA
<213> Unknown
<220>
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microbes in soil sample collected
in Wyoming, USA

<400> 136
tggacgttgc ggagct

16

<210> 137
<211> 16
<212> DNA
<213> Unknown
<220>
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microbes in soil sample collected
in Wyoming, USA

<400> 137
tttccgtgcc ggagct

16

<210> 138
<211> 20
<212> DNA
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<220>
<223> Oligonucleotide

<220>
<221> modified_base
<222> (1)..(1)
<223> Biotin

<400> 138
gtgtaghrgt gaaatdcyda

20

<210> 139

ASHBY.1.DIV.ST25.txt

<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 139
ytcacgrcay gagctgacga c

21

<210> 140
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
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<220>
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<222> (1)..(1)
<223> 5' Phosphate

<220>
<221> modified_base
<222> (28)..(28)
<223> Dideoxy

<400> 140
gctccaggtc tacatcctag tcaggacc

28

<210> 141
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Oligonucleotide

<400> 141
ataggtcctg actaggatgt agac

24

<210> 142
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<212> DNA
<213> Artificial Sequence

<220>
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<220>
<221> modified_base
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<223> 5' Phosphate

<220>
<221> modified_base

ASHBY.1.DIV.ST25.txt

<222> (28)..(28)
<223> Dideoxy

<400> 142
gctccagact agcatccgct gacttgac

28

<210> 143
<211> 24
<212> DNA
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<220>
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<400> 143
aatgtcaagt cagcggatgc tagt

24

<210> 144
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
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<222> (1)..(1)
<223> Biotin

<400> 144
ggtcctgact aggatgtaga c

21

<210> 145
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<220>
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<220>
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21

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<212> DNA
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<220>
<223> oligonucleotide

ASHBY.1.DIV.ST25.txt

<220>
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<223> Biotin

<400> 146
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21

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<212> DNA
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<220>
<223> Oligonucleotide

<400> 147
atagtcctg actaggatgt agacctggag

30

<210> 148
<211> 30
<212> DNA
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<220>
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<400> 148
aatgtcaagt cagcggatgc tagtctggag

30

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<212> DNA
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<220>
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<220>
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<223> 5' Phosphate

<220>
<221> modified_base
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<223> Dideoxy

<400> 149
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27

<210> 150
<211> 30
<212> DNA
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ASHBY.1.DIV.ST25.txt

<220>
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<400> 150
atagtcctg actaggatgt agacctggag

30

<210> 151
<211> 27
<212> DNA
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<220>
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<220>
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<223> 5' Phosphate

<220>
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<223> Dideoxy

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ctccagacta gcatccgctg acttgac

27

<210> 152
<211> 30
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<220>
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<400> 152
aatgtcaagt cagcggatgc tagtctggag

30

<210> 153
<211> 33
<212> DNA
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<220>
<223> Oligonucleotide

<220>
<221> modified_base
<222> (1)..(1)
<223> Biotin

<400> 153
ctcgatagtc acggcctga ctaggatgta gac

33

<210> 154

ASHBY.1.DIV.ST25.txt

<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide

<220>
<221> modified_base
<222> (1)..(1)
<223> Biotin

<400> 154
cagttgcaa cggtaagtc agcggatgct agt

33

<210> 155
<211> 22
<212> DNA
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<220>
<223> oligonucleotide

<220>
<221> modified_base
<222> (1)..(1)
<223> biotin

<220>
<221> misc_feature
<222> (22)..(22)
<223> A, G, C or T

<400> 155
taytycccar gcggybsrct tn

22

<210> 156
<211> 25
<212> DNA
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<220>
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<220>
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<222> (25)..(25)
<223> A, G, C or T

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gtgbcascm gccgcgtaa yacn

25

<210> 157
<211> 22
<212> DNA
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ASHBY.1.DIV.ST25.txt

<220>
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<220>
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<222> (14)..(22)
<223> A, G, C or T

<400> 157
aacgagcgca accnnnnnn nn

22

<210> 158
<211> 16
<212> DNA
<213> Desulfurobacterium thermolithotrophum

<400> 158
gtcagttgcc gaagct

16

<210> 159
<211> 16
<212> DNA
<213> Uncultured Aquificales OPS132

<400> 159
gtccgtgccg taagct

16

<210> 160
<211> 16
<212> DNA
<213> Bacteroides caccae

<400> 160
atggtgtcgtc ttagct

16

<210> 161
<211> 16
<212> DNA
<213> Actinomyces bovis

<400> 161
tttccgcgcc gtagct

16

<210> 162
<211> 16
<212> DNA
<213> Actinomyces meyeri

<400> 162
tttctgcgcc gtagct

16

<210> 163
<211> 16
<212> DNA
<213> Denitrobacterium detoxificans

ASHBY.1.DIV.ST25.txt

<400> 163	cctccgcgcc gcagct	16
<210> 164		
<211> 16		
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<400> 164	cccggttagtc ctagct	16
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<212> DNA		
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<400> 165	catcggtgcc gcagct	16
<210> 166		
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<213> Uncultured GNS bacteria GCA112		
<400> 166	cggcggtgcc gtagct	16
<210> 167		
<211> 16		
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<213> Acetobacter aceti		
<400> 167	actcagtgac gtagct	16
<210> 168		
<211> 16		
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<213> Gluconobacter asaii		
<400> 168	actcagtgac gaagct	16
<210> 169		
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<213> Burkholderia sp. JB1		
<400> 169	ccttagtaac gaagct	16
<210> 170		
<211> 16		
<212> DNA		
<213> Denitrobacter permanens		

ASHBY.1.DIV.ST25.txt

<400> 170
acgatgtcaa ctagct 16

<210> 171
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<212> DNA
<213> Desulfobacter curvatus

<220>
<221> misc_feature
<222> (11)..(11)
<223> A, G, C or T

<400> 171
ctgcttgcc naagct 16

<210> 172
<211> 16
<212> DNA
<213> Desulfobulbus sp. BG25

<400> 172
cctctgtgtc gcagct 16

<210> 173
<211> 16
<212> DNA
<213> Legionella anisa

<400> 173
acgatgtcaa ctagct 16

<210> 174
<211> 16
<212> DNA
<213> Benzene mineralizing clone SB-1

<400> 174
atggttgtcg tcagct 16

<210> 175
<211> 16
<212> DNA
<213> Escherichia coli

<400> 175
cgtggcttcc ggagct 16

<210> 176
<211> 16
<212> DNA
<213> Uncultured Acidobacterium Sub.Div-1

<400> 176
ccgcccgtgcc gaagct 16

ASHBY.1.DIV.ST25.txt

<210> 177	
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<400> 181	
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ccgtcgtgcc gtagct	16
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<400> 183	
ccgtcgtgtc gtagct	16

ASHBY.1.DIV.ST25.txt

<210> 184	
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ctgccgtgtc gaagct	16
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<400> 185	
ctcccggtgtc gaagct	16
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<400> 186	
ccggccgtgtcc ggagct	16
<210> 187	
<211> 16	
<212> DNA	
<213> Uncultured Acidobacterium Sub.Div-2	
<400> 187	
ctgaggaacg aaagct	16
<210> 188	
<211> 16	
<212> DNA	
<213> Uncultured Acidobacterium Sub.Div-2	
<400> 188	
gtgtcgtcccc ggagct	16
<210> 189	
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<212> DNA	
<213> Uncultured Acidobacterium Sub.Div-3	
<400> 189	
gggctgtgtcc gaagct	16
<210> 190	
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ggtcgggtgtcc ggagct	16

ASHBY.1.DIV.ST25.txt

<210> 191	
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<400> 194	
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<400> 195	
gttccgtgcc ggagct	16
<210> 196	
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<213> Aeropyrum pernix	
<400> 196	
ctaggggcg ggag	14
<210> 197	
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<213> Desulfurococcus mobilis	
<400> 197	
ctaggtgttg ggtg	14

ASHBY.1.DIV.ST25.txt

<210> 198
<211> 14
<212> DNA
<213> *Staphylothermus marinus*

<400> 198
ctagggttg ggcg

14

<210> 199
<211> 14
<212> DNA
<213> *Metallosphaera sedula*

<400> 199
ctagggtcg cgta

14

<210> 200
<211> 14
<212> DNA
<213> *Sulfolobus acidocaldarius*

<400> 200
ctagggtcg agta

14

<210> 201
<211> 14
<212> DNA
<213> *Sulfolobus metallicus*

<400> 201
ctagggtca cgtg

14

<210> 202
<211> 14
<212> DNA
<213> *Caldivirga maquilingensis*

<400> 202
ctagcttgtg ggtg

14

<210> 203
<211> 14
<212> DNA
<213> *Pyrobaculum islandicum*

<400> 203
ctagctgtcg gccg

14

<210> 204
<211> 14
<212> DNA
<213> *Archaeoglobus fulgidus*

<400> 204
ctagctgtca ccga

14

ASHBY.1.DIV.ST25.txt

<210> 205	
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<212> DNA	
<213> <i>Archaeoglobus veneficus</i>	
<400> 205	
ctaggtgtca ccgg	14
<210> 206	
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<212> DNA	
<213> <i>Haloarcula japonica</i>	
<400> 206	
ctaggtgtgg cgta	14
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<213> <i>Halococcus morrhuae</i>	
<400> 207	
ctaggtgtgg cgtt	14
<210> 208	
<211> 14	
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<213> <i>Methanococcus jannaschii</i>	
<400> 208	
ctaggtgtcg cgtc	14
<210> 209	
<211> 14	
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<213> <i>Pyrococcus abyssi</i>	
<400> 209	
ctaggtgtcg ggcg	14
<210> 210	
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<212> DNA	
<213> <i>Picrophilus oshimae</i>	
<400> 210	
ctagctgtaa actc	14
<210> 211	
<211> 11	
<212> PRT	
<213> <i>Desulfurobacterium thermolithotrophum</i>	
<400> 211	

ASHBY.1.DIV.ST25.txt

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Gly
1 5 10

<210> 212
<211> 11
<212> PRT
<213> Uncultured Aquificales OPS132

<400> 212

Arg Ala Gln Pro Leu Ser Cys Val Thr Ser Gly
1 5 10

<210> 213
<211> 13
<212> PRT
<213> Bacteroides caccae

<400> 213

Arg Ala Gln Pro Leu Ser Ser Val Thr Asn Arg Ser Cys
1 5 10

<210> 214
<211> 19
<212> PRT
<213> Actinomyces bovis

<400> 214

Arg Ala Gln Pro Leu Ser Arg Val Ala Ser Thr Leu Trp Trp Gly Leu
1 5 10 15

Ala Gly Asp

<210> 215
<211> 19
<212> PRT
<213> Actinomyces meyeri

<400> 215

Arg Ala Gln Pro Leu Pro Tyr Val Ala Ser Thr Leu Trp Trp Gly Leu
1 5 10 15

Val Gly Asp

<210> 216
<211> 18
<212> PRT
<213> Denitrobacterium detoxificans

<400> 216

ASHBY.1.DIV.ST25.txt

Arg Ala Gln Pro Leu Pro His Val Ala Ser Ile Arg Leu Gly Thr His
1 5 10 15

Gly Gly

<210> 217

<211> 14

<212> PRT

<213> Uncultured GNS bacteria BPC110

<400> 217

Arg Ala Gln Pro Leu Leu Tyr Val Ile Arg Val Ile Pro Asp
1 5 10

<210> 218

<211> 14

<212> PRT

<213> Uncultured GNS bacteria GCA004

<400> 218

Arg Ala Gln Pro Ser Leu Tyr Val Thr Arg Ile Ile Arg Asp
1 5 10

<210> 219

<211> 14

<212> PRT

<213> Uncultured GNS bacteria GCA112

<400> 219

Arg Ala Gln Pro Ser Pro Tyr Val Ile Arg Val Ile Arg Asp
1 5 10

<210> 220

<211> 16

<212> PRT

<213> Acetobacter aceti

<400> 220

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Met Phe Gly Trp Ala Leu
1 5 10 15

<210> 221

<211> 16

<212> PRT

<213> Gluconobacter asaii

<400> 221

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Thr Phe Arg Trp Ala Leu
1 5 10 15

ASHBY.1.DIV.ST25.txt

<210> 222
<211> 17
<212> PRT
<213> Burkholderia sp. JB1

<400> 222

Arg Ala Gln Pro Leu Ser Leu Val Ala Thr Gln Glu His Ser Arg Glu
1 5 10 15

Thr

<210> 223
<211> 15
<212> PRT
<213> Denitrobacter permanens

<400> 223

Arg Ala Gln Pro Leu Pro Leu Val Ala Thr Phe Ser Trp Ala Leu
1 5 10 15

<210> 224
<211> 19
<212> PRT
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Asn Glu Thr

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Lys Gly Thr

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<211> 11
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<400> 226

ASHBY.1.DIV.ST25.txt

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<210> 227
<211> 16
<212> PRT
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<400> 227

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<210> 228
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1 5 10 15

Lys Glu Thr

<210> 229
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<400> 229

Arg Ala Gln Pro Leu Ser Leu Val Ala Ser Gly Ser Ser Arg Ala Leu
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<210> 230
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<400> 230

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Leu Ala Lys

<210> 231
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<400> 231

ASHBY.1.DIV.ST25.txt

Arg Ala Gln Pro Leu Phe Ala Ser Cys His His
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<400> 232

Arg Ala Gln Pro Leu Phe Ala Gln Leu Pro Ser Phe Ser Trp Ala Leu
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Cys Arg Asn

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<400> 233

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<210> 234
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Arg Ala Gln Pro Leu Leu Pro Val Ala Thr Ile
1 5 10

<210> 235
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Arg Ala Gln Pro Leu Ser Pro Val Ala Ile Ile
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ASHBY.1.DIV.ST25.txt

<400> 241

Arg Ala Gln Pro Ser Ser Leu Val Ala Asn Pro Gln Gly Lys His Pro
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Lys Gly Thr

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<400> 242

Arg Ala Arg Pro Leu Ser Cys Val Ala Ile Ile
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<210> 243

<211> 18

<212> PRT

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<400> 243

Arg Ala Gln Pro Leu Ser Cys Val Ala Asn Pro Gln Gly Cys Thr Leu
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Arg Arg

<210> 244

<211> 20

<212> PRT

<213> Uncultured Acidobacterium Sub.Div-3

<400> 244

Arg Ala Gln Pro Ser Pro Cys Val Ala Thr Pro Pro Arg Ala Gly Ala
1 5 10 15

Leu Ser Gly Asp
20